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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,864	12/14/2001	Klaus Ludewigt	MOH-P990638	5943

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 06/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,864

Applicant(s)

LUDEWIGT ET AL.

Examiner

Armando Rodriguez

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


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TECHNOLOGY CENTER 2800

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 15. 6) ☐ Other: ____

DETAILED ACTION

Drawings

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on June 14, 1999. It is noted, however, that applicant has not filed a certified copy of the 19927054.6 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

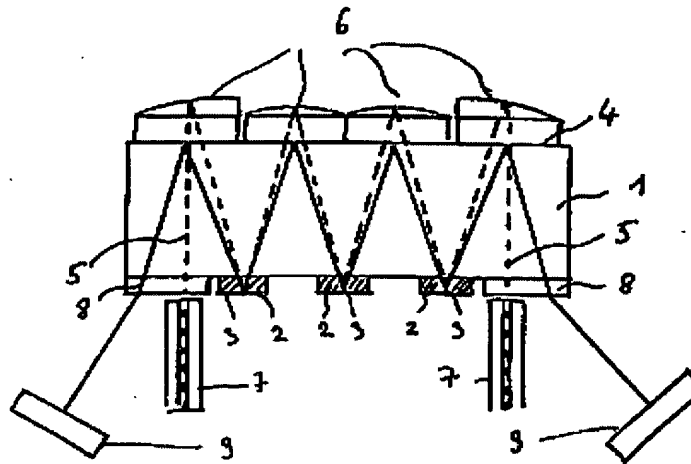
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Altmann et al (DE 19728845).

In figure 1 Altmann et al illustrates a laser system having a resonator established by mirrors (9), a plurality of gain medium (2) within the resonator in the shape of a disc, astigmatic mirrors (6) with curved surfaces for reflecting and focusing the beams onto the gain medium.



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Fig. 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altmann et al (DE 19728845) in view of Brauch et al (PN 5,553,088).

In figure 1 Altmann et al illustrates a laser system having a resonator established by mirrors (9), a plurality of gain medium (2) within the resonator in the shape of a disc, astigmatic mirrors (6) with curved surfaces for reflecting and focusing the beams onto the gain medium.

Altmann et al does not disclose the composition or dimensions of the gain medium with respect to the absorption of the beam.

In table 1 of Brauch et al discloses the composition and thickness of the gain medium with respect to the absorption length of the beam.

The "person having ordinary skill" in this art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. Therefore, having the disclosure of table1 would enable a person of ordinary skill in the art to optimize and obtain a working range of the gain mediums.

TABLE 1

Material	Doping [%]	eff. Absorption Length [mm]	typ. Multi-pass Factor	Thickness [mm]	Pumping Power Density [kW/cm ²]	Pumped Diameter [mm]
Yb:YAG, 300K	10	1	8	0.2-0.4	3-10	0.2-10
Yb:YAG, 200K	20	0.3	4	0.15-0.3	1-20	0.15-10
Nd:YAG	1	1-4	2-4	0.5-2	<5	0.5-40
Nd:YVO ₄	2	0.15	2-4	0.1-0.2	<20	0.1-5
Tm:YVO ₄ , 300K	5	0.6	4-8	0.15-0.4	2-5	0.15-10
Ti:Al ₂ O ₃	0.1	3	8	0.5-1	10-20	0.5-20
miscellaneous		0.1-3	2-8	0.1-2		0.1-40

60

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altmann et al (DE 19728845) in view of Itai (PN 5,148,441).

Regarding claims 10,12,13.

Output couplers which are partially transmissive mirrors output the laser beam and reflect the pump beam are well known and commonly used in the laser art, as shown in Figure 1 of Itai.

This diagram illustrates a light beam scanning system. A light beam L1 enters from the bottom left, passing through a component 60. It is reflected by a rotating mirror 20, which is part of a rotating assembly 21. The beam then passes through a series of lenses L2 and is reflected by a polygonal mirror 22. The beam is then directed through a series of lenses L2 and L3, and is finally reflected by a component 61. The diagram also shows a series of lenses L2 and L3, and a series of lenses L2 and L3, and a series of lenses L2 and L3.

The use of beam splitters for coupling the pump beam into a laser system is notoriously well known in the laser art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is (703) 308-6218. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7721 for After Final communications.

Art Unit: 2828

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4881.

Armando Rodriguez
Examiner
Art Unit 2828



Paul Ip
Supervisor
Art Unit 2828

AR/PI
May 31, 2002